

### Abstract

Methods and systems are disclosed for meeting a fresh air ventilation threshold in a controlled space. In particular, and in some embodiments, a minimum ventilation threshold is met by using normal air handler fan cycles to minimize the energy cost of supplying the ventilation. Prediction methods may be employed to determine whether the air handler and damper need to be activated to meet a minimum ventilation threshold, even when the HVAC system is not currently calling for normal air handler fan cycles. In some cases, the past history of air handler fan run cycles is used to determine whether a fan should be operated now to provide additional fresh air ventilation. Alternatively, or in addition, predictions of future air handler cycles are used to determine whether a fan should be operated now to provide additional fresh air ventilation. In some cases, the past history of air handler fan run cycles may be used to predict future air handler cycles to determine whether to open or close a selectable fresh air source damper.